FY 2009 Climate Change Action Priority #1
Assessment of Regional Responses

~ National Technical Advisory Team ~
February 19, 2009

Assignment to the Directorate

By Friday, January 23, 2009, each region was requested to answer the following questions related to the FY 2009 Climate Change Action Priority #1. Answers were intended to further refine and build justifications for the FY 2010 budget proposals, to frame further discussions around the FY 2011 budget, and to develop outreach materials related to our climate change strategic and action plans.

1. Describe the region's overall conceptual approach toward the development of Landscape Conservation Cooperatives, including how you will approach LCCs that will span boundaries between FWS regions. Include a brief assessment of Bird Conservation Regions (BCRs) as a common ecoregional framework for designing a network of LCCs (750 words).

2. Describe one specific proposal that the region is considering for development of a Landscape Conservation Cooperative in FY 2009. Briefly outline the nature of the partnership, the existing and needed technical capacities, and the geographic region and biological resources being targeted (500 words).

3. Describe the region's efforts to date, and current thinking about the potential for, and nature of a regional climate science partnership (500 words).

All regions responded. Please see Attachment A for consolidated answers.

I. Regional Submissions - Observations

General Comments

- The questions were assigned for <u>regional</u> response, and as a result, a broader continental approach (multi-region) to developing LCC's was not explored.

- The questions, as posed, broke with the adage of "form follows function", leading to a variety of responses.

- Regional SHC and climate teams are increasingly tapped to provide planning support for LCC's.

- SHC, with the urgency factor of climate change, has caused the Service to begin re-calibrating its approach to pursuing the mission; and yet, responses tended to focus on teams, processes, or initiatives.

- As a result, the assignment questions and answers tend to overlay conventional processes, procedures, and partnerships on an ill-defined sense that the bureau must change.

Common Response Themes by Question

For Questions 1 and 2:

- Spatial boundaries/extent of LCCs – Most regions explored the use of ecologic parameters to define the working area of an LCC with a focus on a scalable ecological based framework. Many of the areas identified roughly align with BCRs. However, there doesn't seem to be a consistent idea the scale at which an LCC will operate
- Assess existing capacity – Many regions are currently assessing, or plan to assess, existing capacity (for biological planning, conservation biology, conservation design, monitoring, statistic expertise, etc.) in the region or identified LCC working area
- Assess existing conditions – Many regions identified a plan to assess existing habitat conditions and predict future habitat conditions
- Prioritizing LCC creation – Most regions identified priority LCC areas as areas where there are opportunities to capitalize on existing partnerships/capacity. There were some differences among regions in the prioritization of LCC development. Some regions focused on prioritizing LCC development in areas that could currently support populations of priority resources (with the focus on maintaining them) while others will prioritize LCCs in areas that are most vulnerable to conservation threats. These differences in prioritization are not likely to cause problems with establishing a consistent LCC system across the nation.
- Why regions want LCCs – Common themes emerge in the region's descriptions of how LCCs will be value-added such as: to provide support for conservation threats both currently and for the future, to provide support to (not replacing the need for) local scientists and managers, to provide landscape-scale habitat assessments, to provide landscape-scale biological planning, to design and analyze the results of monitoring efforts, oversee non-redundant integration of monitoring and spatial datasets, plan for landscape connectivity.
- Partnerships - All regions identified existing efforts to partner across programs and regions in the Service and to partner with other federal/state/private conservation organizations.

For Question 3:

- There were some common themes of what the Service needs from regional climate partnerships, such as downscaling of climate models and networking between conservation professionals and climate scientists. However, a common approach to creating regional climate partnerships did not emerge, nor were there common ideas of how regional climate partnerships would interface with LCC's.

Finally, it became evident that consistencies and overlap among ideas and concepts occurred across the regional responses. It also came as no surprise that there were quite a number of differences in how Regions might define/develop LCCs. While not necessarily problematic, asymmetry in basic underlying expectations, core functions and services, roles and responsibilities, etc., may result in unintended biological and organizational consequences. As a result, the Service must seek biological continuity nationally, such that species entrusted to the Service are assessed throughout their annual cycle and their full range and that biological outcomes can be summed across political and Regional boundaries to the population as a whole. As the Service works with partners to grow acceptance and garner *direct partnership involvement* in the development of LCCs, it will become increasingly important to speak with a common and consistent vocabulary.

II. Recommendations

Regions are tasked with (1) creating a LCC in 2009 and (2) developing a strategy for creating LCCs throughout their respective regions. Yet no clear definition of LCCs exists, nor does a strategy for how LCCs will enable the Service to meet the conservation challenges of the 21st Century.

Recommendation: As the regions progress with developing initial LCC's, the Directorate should task the Deputy's group and a subset of the TAT to develop the key components of a partnership-based National Network of Landscape Conservation Cooperatives. Submitted to the Directorate by June 30, 2009, the plan should include:

- The role LCCs serve in the Service's emerging approach to landscape conservation.
- The foundational framework necessary for a national network of LCC to function as an interactive and integrated system in sharing technologies, methodologies, capabilities, and expertise; and to ensure biological continuity across the nation.
- A descriptive relationship anticipated between LCCs and myriad existing partnerships, science capacities (e.g., universities, USGS science centers), and other organizational structures (e.g., regulatory commissions) operating within a specified landscape.
- A set of core functions, services, and products expected of operational LCCs.
- The geographic, biological, and operational scope of responsibilities of LCCs; ensuring full landscape coverage.
- The functional responsibilities of LCC to incorporate climate change into landscape conservation planning and assessment.
- The relationship between LCCs and the existing infrastructure of the Service as well as the broader conservation community.

- An organizational capacity and structure for a start-up LCC and a fully operational LCC.
- The Service's role in supporting base capacity of LCCs.
- A set of criteria for prioritizing and creating LCCs.
- And finally, a common vocabulary that helps to distinguish between Landscape Conservation Cooperatives, Landscape Conservation Science Support Center, Landscape Conservation Networks, a Network of LCCs, and a System of Landscape Conservation Cooperatives. For example, here are the type of definitions and descriptors that we have noted in discussions and require urgent clarification:

Landscape Conservation Science Support Center (LCSSC) – a group of technical professionals that are responsible for science applications and the development and continuous refinement of conservation strategies that address the attainment of explicit objectives in the face of existing limiting factors and potential future threats including climate change. LCCs will be comprised predominantly of dedicated Service employees, usually co-located within the ecoregion they work on, and ideally co-located with managers in relevant Service programs. LCC expertise or capacity will often be supplemented on an as needed basis by technical staff from the LCC Network (see below).

Landscape Conservation Cooperative (LCC) – One or more groups comprised of the LCC and its technical and its State and NGO senior leadership partners. Obviously some partners will participate to a greater extent and more frequently than others.

LCC System – A national network of LCCs wherein coordination among LCCs occurs such as apportioning objectives across the country, conveying the needs and capacities of different LCC Networks, and exchanging technical information and new techniques.

III. Landscape Conservation Cooperatives

- Overview
- A National Framework
- LCC Functions and Products
- Criteria for LCC Selection

As we stated, we recommend the Deputy's group and a TAT subset begin defining LCC's. In the meantime, we offer the following as a starting point.

Overview

Today, the Service and the larger conservation community face unprecedented issues of scale, pace and complexity. As the human population increases—and with it industrialization and development—resource management challenges such as habitat destruction and alteration, pollution, invasive species, disease, and threats to water quality and quantity grow as well. Accelerated climate change is magnifying impacts on water and land resources, agriculture, and biological diversity, and has become a global crisis with the potential to cause abrupt changes in ecosystems and mass species extinctions.

Successfully meeting the challenges of accelerated climate change and other threats to sustainable wildlife populations requires a new vision for natural resource management—one that links conservation actions for individual species or at individual project sites with broader, "landscape-scale" objectives tied to large, connected areas of biological importance. To achieve this, the Service and its partners need the capability and expertise to develop, test, and implement conservation strategies responsive to dynamic changes in wildlife and their habitat. These strategies should incorporate emerging technologies and climate knowledge that can help scientists and resource managers predict habitat and species changes and target conservation to address climate change impacts.

Landscape Conservation Cooperatives (LCCs) are the next evolution of this collaborative approach. LCCs will allow science and resource management communities at federal, state, regional and local levels to share expertise, skills, technologies, funding, and other resources to plan, design and deliver conservation at landscape scales. Guided by the Service's Strategic Habitat Conservation framework—an iterative process of biological planning, conservation design, conservation delivery, and monitoring and research—LCCs will function as hubs for collecting relevant data; using the data to apply population-habitat and ecological models, statistical analysis, and other decision-support tools; and developing appropriate strategies for conservation delivery on the ground.

The precise organizational structure for LCCs will vary based on the shared needs of cooperators. In some cases, LCCs may emerge from existing partnerships such as Joint Ventures or similar initiatives. In others, the Service and its partners will establish new LCCs to address challenges associated with a particular landscape or ecoregion.

A National Framework

There is no single correct way to develop national LCC coverage; however, a fundamental dichotomy exists in organizing LCCs around ecoregions versus around the annual ranges of trust species. Each has unique challenges, particularly for migratory species. The choice is almost irrelevant for resident fish wildlife and plants.

Each Region responded to the LCC assignment using an ecoregional (geographic-area-of-responsibility) approach. Even under such a wall-to-wall approach, it will challenging to make objectives and accomplishments add up neatly across the country, especially for migratory species that may require some redundancy, and therefore resiliency, be built into conservation plans to account for years when one region is in poor condition and others are good to normal. Conversely, using a species framework wherein an LCC is responsible for all phases of the annual cycle of a species and its range wide geography poses problems in requiring LCC staff to understand the functions of multiple ecosystems and interact with a much larger number of Service managers and partners.

Further work is needed to develop a common spatial language and framework for LCCs

LCC Functions and Products

A primary purpose of an LCC is to provide information to program managers and field managers, enabling them to make the best possible management decision. In other words, to elevate the explicit use of science to a level consistent with the wide array of other factors affecting conservation decision making.

LCC supply information on how best to counteract or minimize the effects of factors limiting ecological functions like sustaining populations at objective levels. They also provide information that positions the Service to proactively manage risks from emerging environmental threats, perhaps most notably climate change. LCCs follow the adaptive management paradigm of developing explicit objectives, using the best science to design strategies to achieve objectives as efficiently as possible, relying on managers to deliver conservation and monitor its impacts relative to expectations, and re-planning, based on new and better information (that is, learning from management).

Specifically, a fully operational LCC would provide functions such as:

Biological planning

- Identifying mission-based, outcome-oriented objectives and limiting factors
- Model development
- Spatial analysis using models

Conservation design

- Designation of Programmatic priority areas
- Highlighting Putting refuges and other conservation lands (e.g., partner) role in a "big-picture" context
- Estimating the consequences of achieving objectives to overall ecosystem functions including C sequestration.
- Making provision for porous landscapes that promote species range-shifts if necessary due to climate change and other environmental perturbations
- Assessing, monitoring, and predicting the ability of the landscape to support and sustain socio-viable populations of priority fish and wildlife resources.

Assumption-based Research

- Identifying key planning assumptions and working with partners to fund and conduct strategic research

Outcome-based Monitoring

- Coordinate monitoring activities of field stations to assess reliability of model predictions
- Coordinate adaptive reviews of common management techniques
- Compile and analyze data of landscape habitat changes at ecoregional scales from standardized broad-scale surveys or habitat inventories to assess progress toward objectives.

Support Management Accountability

- Develop tools that enable managers to independently propose projects and report accomplishments in the same mission-based, outcome-oriented terms as objectives

As a result, LCC products will be:

- Models that predict how species will respond to management, and can be used to predict population status and trends under future management, policy, and climate scenarios;
- Priority management areas for programs partnerships to attain explicit objectives for single or multiple species;
- An assessment of existing and forecasted conditions.
- Estimates of collateral benefits of management such as C sequestration
- Mission-critical research results;
- Coordinated monitoring protocols; and
- Maps and desktop computer software that increase management efficiency and accountability, and a
- Spatially explicit vision of what the landscape needs to look like in order to sustain populations of priority species.

Criteria for LCC Selection

1. Scientific Expertise
2. Service Priority Ecoregion (large Service presence)
3. Management Demand (managers are asking for the new capacity)
4. Partnership Relationships
5. Spatial Data Availability

Clearly the concept, definitions, and expectations of LCCs will continue to emerge and evolve. However, the Service will benefit from a more complete blueprint of how, where, and to what extent they will become core components of our nation's conservation infrastructure. We must establish as our goal an assemblage of the skills, expertise and technological firepower to identify and pursue landscape conservation and position the organization to address climate climate change such that we successfully conserve sustainable populations of trust resources. Because our collective need for these capacities and technologies far outweighs our individual abilities to invest in them, this collaborative approach is essential to success.

###